Asset Management for CW Infrastructure
August 23-24, 2005
Alexandria, Virginia
Executive Summary

Background

On August 23-24, 2005 in Alexandria, Virginia approximately 70 people attended a workshop to discuss asset management as it relates to the US Army Corp of Engineers (USACE) Civil Works Infrastructure. The workshop was organized by the US Army Engineer Research and Development Center (ERDC) in collaboration with Headquarters, USACE. Objectives of the workshop were to:

- Define asset management and metrics;
- Discuss current and future challenges related to asset management;
- Provide interagency forum for sharing lessons learned, partnering, and collaboration;
- Evaluate applicability of existing tools and data requirements for different business lines; and
- Identify technical gaps and corresponding R&D requirements across business lines.

At the USACE Senior leaders conference held two weeks prior to the workshop, senior leaders discussed implementation strategies for the USACE Campaign Plan, Goal # 3: to enhance life-cycle infrastructure management. Sub-objective 3C of this plan states that the USACE will "improve the reliability of water resources infrastructure using a risk based asset management approach." This workshop proved to be a timely opportunity not only to discuss where we are in the process, but also to develop the groundwork for how we can proceed.

The participants included key leadership from all areas of the USACE including HQ, division, districts, ERDC and IWR, representing most of the Corps' major mission areas, real estate, resource management, logistics, engineering, economics and environmental disciplines. Additionally, participants from University of Colorado, University of Alabama, US Military Academy, National Science Foundation, Bureau of Indian Affairs, Federal Real Property Council, US Navy, NASA, DOI and the Bureau of Reclamation attended and contributed their expertise and valuable lessons-learned regarding asset management in their own organizations. Key people took time from their busy end-of-the-year schedules to gather, to share their knowledge, and to make a case for the road ahead. The energy and enthusiasm in this workshop resulted in a charge and a commitment to set things in motion.

The Workshop

The workshop consisted of invited presentations, group and panel discussions, and break out sessions. After a series of informative presentations from external agencies and within the USACE, participants defined infrastructure, assets, asset management and critical problems related to technologies and business line needs. Details of this workshop have been reported under separate cover and can be provided upon request. The intent of this summary is to capture the essence of the workshop and the "bottom line."

Asset management, as defined by the panel experts and participants at the workshop, is a way to manage resources that will maximize life cycle performance, minimize risk, and optimize our infrastructure for the good of the nation. It is a proactive and sustainable approach to life cycle planning, requisition, management and disposal. To the question, "**What is Infrastructure**?" Dr. David Hale, University of Alabama, succinctly replied it is "large value service or product platforms that provide capabilities for others." **Assets** were defined in four break-out sessions by four of the nine Corps business lines (Flood and Storm Damage Reduction, Navigation, Hydropower, and Recreation). The more obvious assets identified included hydropower facilities, flood control dams, recreational facilities, locks and navigation dams, levees, navigation channels, coastal inlets and jetties, confined disposal facilities, riverine training structures, bank revetment, boat ramps, visitor centers, coastal structures, pumping plants, beaches, floodwalls, and ecological restoration areas. Less obvious were data, communications, ideas, and human capital. The assets ranged from components of a facility, such as a miter gate, to systems of locks or an entire power grid.

In initial breakout sessions on data, metrics, and software and tools, participants defined driving issues and critical problems. Many driving issues were identified including our aging infrastructure, politics, regulations and limited resources. The top 5 **critical problems** identified and prioritized by the group were 1) lack of standards and criteria, 2) condition assessment, 3) risk and uncertainty, 4) business line processes and 5) inadequate models and tools. Additionally the four business lines met and discussed the priority problems for their respective areas. Not surprisingly, some business areas moved other problems to the top. Recreation and hydropower considered scarce resources and interoperability of information technology as top priorities. Recreation was the only team to explicitly consider safety. Flood added the need for regional evaluation teams. Flood, recreation, and navigation all considered condition assessment a priority. Navigation felt inventory was a critical first step, and standards were a cross-cutting requirement to all problems. Each team offered bottom line thoughts for consideration by business area teams to set the dynamics for the next step in the development of an asset management plan.

Workshop Conclusion

The workshop wrap-up concentrated on the message to report back to senior leaders and others. Workshop participants revisited the most critical problems and defined what they felt were the next critical steps. The top priority problems were 1) condition assessment, 2) risk and uncertainty, 3) regional evaluation teams, and 4) business line specific consequences of not managing assets. A recurring message was that the way forward is dependent upon executive level buy-in and a serious commitment of resources. The next steps must include: 1) establishment of a national asset management product delivery team (PDT) that includes business line leads, and business line PDTs to include regional members; 2) development of a master or national plan for Asset Management based on strategic plans; and 3) development of corporate and/or enterprise approaches for classification of assets and standards for condition assessment.

The workshop closed with support by Mr. Gerald Barnes, Chief Operations and Maintenance, USACE. He congratulated both the organizers and participants for their

hard work and the quality of the workshop. He assured those attending that senior leadership fully supports this initiative in context of the development of a long-term sustainable infrastructure plan. Key people from this workshop and others will be meeting within the month to develop this plan, and the outcome of this workshop will provide a basis for discussion.

Prolog

Sadly, none of us could have known that 5 days after this workshop, August 29, 2005 the Gulf Coast would be devastated by the most horrific and catastrophic storm ever to hit the US. In retrospect, the discussion on consequences to human life and economic viability of not managing assets were more prophetic than anyone could have imagined. With every hour, day, and week that passes, with every human life lost, with each displaced and missing person, with the yet unknown devastation to the economy and the environment, the message escalates with increasing urgency. Our nation's infrastructure is critical to the safety and survival of our country, and unfortunately is critically fragile.